

# Tracking the Exercise-Achievement Link

By Marianne D. Hurst

When the Elsie Whitlow Stokes Community Freedom Public Charter School opened its doors in 1998, founder Linda Moore faced a challenge common to many schools, especially in poor urban areas: how to provide students with enough physical activity.

Unable to support a salaried physical education specialist, the 250-student K-6 school in Washington partnered with several nearby businesses and transported students to recreation centers and parks for physical education classes. Most students at the school receive at least two hours of physical education a week and can take part in activities as varied as bicycling, golf, hiking, soccer, football, tennis, and even tae kwan do.

Ms. Moore says physical activity is vital for her students, in large part because she believes it has a positive effect on academic achievement.

Her belief in that link is supported by some research.

**To begin with, experts say a few well-known studies performed on mice have shown that increased physical activity builds more neural connections in the brain, which can increase the ability to focus and learn. In addition, a 2002 study conducted by the California Department of Education concluded that there was a "distinct relationship between academic achievement and physical fitness." The study compared the 2001 standardized-test scores of nearly 1 million 5th, 7th, and 9th graders in California against a state-mandated physical-fitness test. Students with higher levels of physical fitness showed greater academic achievement than those who were less physically active.**

**The California study also noted that the relationship between academic achievement and fitness was greater in mathematics than it was in reading.**

**"I think the handwriting is on the wall," said Bruce Bettey, the associate director of dissemination for the San Diego-based Sports, Play, and Active Recreation for Kids, or SPARKS, which produces a research-based physical-activity program for schools nationwide. "Kids need to be more active to improve test scores."**

## How Strong a Link?

Not everyone agrees with Mr. Beatty's conclusion. "There's not a one-to-one correlation," said Jamal Cooks, a San Francisco State University education professor and a track coach at the 2,100-student Skyline High School in Oakland, Calif. "But participation in sports creates a commitment to excellence,

competitiveness, teamwork, and builds a drive to achieve that can be applied in the classroom."

Other researchers also maintain that the relationship is hard to establish.

George Graham, a professor of kinesiology at Pennsylvania State University who helped conduct a statewide relational study in Virginia in which all the public elementary school principals in the state were surveyed, said that no definitive research linking physical activity and academic achievement exists.

The Virginia study, for instance, found that student standardized-test scores were not affected by a school's choice to offer physical education or not.

However, he said, "an incredible amount of anecdotal evidence" supports that link. Even so, he cautioned, the relationship "is so complex."

"How do you define physical activity?" he said. "How do you define academic achievement? A lot of people are selling [physical education] based on academic achievement, but we have limited evidence on this."

To complicate matters, experts say that research in this area is bogged down by student-privacy issues, disputes over terminology, debates on genetics and heredity, the limited size and scope of many study groups, conflicting results, and a lack of long-term correlations.

## Physical Education's Role

Jim Pivarnik, a professor of kinesiology at Michigan State University who conducted a study of 214 middle school students in Illinois, found that test scores were unchanged regardless of the amount of physical activity students had during the school day.

**He noted, though, that if you take into account physical activity in general, students who were more active on a regular basis did tend to do better academically.**

**"We don't know if physical education is removed [from schools] that academics will plummet," he said. "But we suspect that when you take away one of the last bastions we have [for physical activity], that kids will not be active on their own."**

Twenty years ago, Mr. Pivarnik said, it might not have made so much difference. But with today's less physically active lifestyles as well as poor nutrition, physical education classes fill a more important role.

Beyond that, some researchers point out that the role of physical education is not to improve student achievement. Its primary role, they argue, is to maintain and improve physical health.

"Physical education is a subject matter mandated in [nearly all] states—it has clear objectives and one is not to improve academic achievement," said Thomas McKenzie, a professor in the department of exercise and nutritional sciences at San Diego State University.

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